

Application No: 10/623,933

EB 125474367 US

Filed: July 21, 2003

Applicant: James C. Smith

IN THE SPECIFICATION:

Please amend page and lines as follows:

On Page 20, please amend the following paragraph beginning on line 5.

Another embodiment, Figures 11, 12 12A and 13, shows an alternative to my "Sealing Cap for Container" Patent No.5, 513,768 with the replacement of the convex sealing diaphragm with a pipette tip wiping configuration. Figure 11 shows a perspective view of the two-cap design with the spiral wiping fingers 90 rotating more than one revolution and converging to the substantially closed apex end 113. The spiral wiping fingers 90 are formed from at least one helical slot 112 beginning at a substantial closed apex end 113 as shown in Figure 12 and molded into the wiping cap 92 attached to the container tube 50 by a hinge 94. Locking Cap 96 is molded 180 degrees opposite the wiping cap 92 and is connected to tube 50 by hinge 98, which completes the one-piece injection molded assembly. In use the tube 50 would be filled with fluid 41, wiper cap 92 would then be rotated into the tubes tapered sealing surface 100 mating with the wiping cap 92 sealing surface 102. To access the tubes fluid with a pipette tip 115 attached to pipetter barrel 61, you would pass the tip 115 through the spiral wiping finger or fingers 90, by expanding them, draw the calibrated sample fluid 119 into the cavity 124 of pipette tip 115, withdraw the tip 115 from the tube 50 and transport the sample 119 to its location for its dispensing. Unlike prior art, during the withdrawal cycle the spiral wiping fingers 90, contract about the entire outside circumference of smooth conical surface 125 of the pipette tip 115 and removed in a squeegee like action all non-calibrated residue fluid droplets 116 from the entire outside 125 of the tip 115 and leave it within tube 50 as shown in Figure 16 and Figure 17.

On Page 20, please amend the following paragraph beginning on line 28 and ending on Page 21, line 11

A single cap variation of the spiral wiping finger 90 is shown in Figures 15-18. This embodiment is also a one-piece injection molded closure design incorporating a threaded skirt 40 attached to access cap 44 by hinge 46. Its sealing and locking features are the same as is shown and described by Figure 3 and 3A. However, the convex sealing diaphragm 43 has been replaced with spiral wiper finger 90. Figure 16 shows a pipette tip 115 that has entered the fluid contents 41 of tube 50 by expanding the fingers of the spiral wiper 90 and has withdrawn its calibrated sample fluid 119. As the tip 115 is retracted from the fluid 41, there exists fluid in the form of film or droplets 116 on the outside surface 125 of the tip 115. This is due to the surface tension of plastic tip material, usually polypropylene, to attract the fluid. As the tip 115 is drawn upwards out of the tube 50 as shown in Figure 17, the spiral finger 90 contracts in complete circumferential contact about its conical surface 125 creating a squeegee like action wiping all of the non-calibrated residue fluid 116 from its entire outside surface 125 back into the container 50. This leaves the outside surface 125 of the tip 115 clean and ready to be transported to its next location for dispensing as shown in Figure 14. The container can now be closed and sealed for further use. In addition to the sealing surfaces as described by Figure 3 and 3A there can exist mating surfaces 117 of the access cap 44 and 118 of the wiping finger cavity which can also form an additional seal as shown in Figure 18 closed and sealed position. It is also understood that cap 40 can attach to its container 50 by means other than thread (i.e. snap, press fit, etc.).